REMARKS

In an Office Action mailed on November 12, 2008, an objection was made to the specification; claims 3-5 and 12 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite; claims 1 and 8 were rejected under 35 U.S.C. § 102(b) as being anticipated by Lui; claims 15-21, 28, 29 and 31 were rejected under 35 U.S.C. § 102(b) as being anticipated by or alternatively as being obvious over Lui; claims 2-7 and 9-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lui in view of Brooks; claim 13 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Lui in view of Mohr; claims 14-21 and 28-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lui; and claim 22 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Lui in view of Vaynshteyn.

The Abstract has been amended to overcome the corresponding objection to the specification.

Regarding the § 112, second paragraph rejections, attached hereto as Exhibit A are definitions of "thick-film" and "thin-film" process technologies. The Office Action rejects claims 3-5 and 12 as purportedly being indefinite due to the use of the words "thick" and "thin." Applicant respectfully points out, however, that claims 3-5 and 12 are each directed to a specific process technologies, referred to in the art as "thick-film" (claims 3-5) and "thin-film" (claim 12) technologies, for forming circuits. Thus, as can be appreciated by one of skill in the art, a "thick-film" circuit does not literally refer to the thickness of the circuit but rather refers to the process technology that is used to form the circuit. As such, Applicant respectfully submits that claims 3-5 comply with the requirements that are imposed by the second paragraph of section 112. For similar reasons, Applicant respectfully submits that claim 12 complies with the second paragraph of section 112, as "thin-film" also refers to a particular type of process technology and not to the particular thickness of the circuit.

As amended, the detonator assembly of independent claim 1 includes a capacitor, an initiator, a transformer and an addressable chip. The initiator is fused or bonded to the capacitor.

In order to anticipate a claim under 35 U.S.C. § 102, a single reference must teach each and every element of the claim. *Verdegaal Bros.* v. *Union Oil Co. of California,* 814 F.2d 628, 631 (Fed. Cir. 1987). In fact, "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson* v. *Suzuki Motor Co.,* 868 F.2d 1226, 1236 (Fed. Cir.

1989). Furthermore, in order for a reference to be anticipatory, "[its] elements must be arranged as required by the claim." *In re Bond,* 910 F.2d 831 (Fed. Cir. 1990), *cited in* M.P.E.P. § 2131.

Contrary to the limitations of amended independent claim 1, Lui discloses a detonating system (see Fig. 2), which includes a blasting machine 32 located outside of the well and a detonator 42, which is disposed in the well. In the § 102 rejection of claim 1, the Examiner refers to components of both the blasting machine 32 and the detonator 42. *See, for example,* Office Action, p. 5 and the discussion of the capacitor 100, 106 (Fig. 6) of the blasting machine 32 and the initiator 80 (Fig. 2) of the detonator 42. However, contrary to the claimed invention, these components are not integrated as a single unit together. Furthermore, Lui fails to disclose or even suggest fusing or bonding the capacitor of the blasting machine 32 to the initiator of the detonator 42. Therefore, for at least any of these reasons, amended independent claim 1 overcomes the § 102 rejection.

Dependent claims 2-22 and 28-31 are patentable for at least the reason that these claims depend from allowable claims.

For similar reasons, newly-added independent claim 49 is patentable over the cited art. In this regard, the detonator assembly of independent claim 49 includes a capacitor, initiator, transformer and addressable chip, which form an integrated detonating unit. The transformer is fused or bonded to the capacitor. As set forth above, Lui discloses a capacitor as part of the blasting machine 32, which is located out of the well and a transformer that is part of the downhole detonator 42. Lui fails to disclose or render obvious, however, a detonator assembly which includes a capacitor and a transformer that is fused or bonded to the capacitor. Dependent claims 50-70 are patentable for at least the reason that these claims depend from an allowable claim.

CONCLUSION

In view of the foregoing, Applicant respectfully requests withdrawal of the §§ 102, 103 and 112 rejections and a favorable action in the form of a Notice of Allowance. The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 20-1504 (SHL.0296US).

Respectfully submitted,

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EXHIBIT A

Span-the algebraic difference between limits of the pressure range.

Specular Scan-a reflective scan technique in which reflection from a shiny surface illuminates the photosensor, which must be precisely positioned to receive the reflected light. The angle of incidence equals the angle of reflection.

Stability of an Operating Characteristic-the extent to which an operating characteristic such as operating point remains constant during a specified number of cycles of switch operation, under specified conditions of actuation, electrical loading and environment. Most clearly expressed as a graph of the characteristic versus cycles of switch operation.

Standard Target-an object used for making comparative measurements of operating distance. A square of mild steel, 1mm thick. The length of the side of the square is equal to either:

A: the diameter of the circle inscribed on the active surface of the sensitive face of the sensor, or

B: three times the rated operating distance, whichever is the greater.

Storage Temperature Range-the minimum and maximum specified temperature which may be applied to the pressure sensor without causing a permanent change in the output characteristics.

Strain Gage-a sensing device providing a change in electrical resistance proportional to the level of applied stress.

Sublimation-the change of state of a materiel from solid to vapor and back to solid without going through a liquid state.

Supply Current-units = Amps or milliamps. The amount of current necessary to maintain operation of a photoelectric control, proximity sensor or control base. Sometimes referred to as Current Consumption.

Supply Voltage-units + Volts. The range of power required to maintain proper operation of a photoelectric control, proximity sensor or control base. The difference in potential (or range of difference in potential) necessary to operate the unit.

Switching Frequency-the actual number of targets to which the sensor can respond in a given time period, usually expressed as Hertz (cycles per second).

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Target-the part or piece being detected.

Terminal Base Linearity-T.B.L. (End Point Linearity) - a method of defining linearity. The maximum deviation of any data point on a sensor output curve from a straight line drawn between the end data points on that output curve. (T.B.L. is approximately twice the magnitude of B.F.S.L.).

Terminal Line-a theoretical slope for which the theoretical end points are normalized at 0 and 100% of both measurand and output. Interchangeability error is referenced to this line.

Temperature Error-the maximum change in output, at any input pressure within the specified range, resulting from a change in temperature.

Thermal Drift Chart-a chart illustrating sensor operating variance due to changes in temperature.

Thick-Film-technology using silk screened pastes to form conductor, resistor, themistors, and insulator patterns; screened onto the substrate (usually ceramic) and cured by firing at elevated temperatures.

Thin Film-a technology using vacuum deposition of conductors and dielectric materials onto a substrate (frequently silicon) to form an electrical circuit.

Threshold Response-a control type that responds to the change in input signal level. Plug-in amplifiers are either threshold or transition responsive.

Throw-the number of circuits that each individual pole of a switch can control. The number of throws is completely independent of the number of poles and number of breaks. A single-pole double-throw single-break switch connects the common terminal of the switch to the normally closed terminal when the plunger is free, but connects the common terminal to the normally open terminal when the plunger is depressed. A single-pole single-throw single-break switch has a common terminal and either a normally open terminal or a normally closed terminal but not both.

Thru Scan-a scanning technique in which the emitter (light source) is aimed directly at the receiver. Also called direct scan and transmitted scan, since light is transmitted directly, not reflected to the sensor. Presently, it is the